IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

In re Patent Application of
OLIVA

Atty Dkt. 3572-27
C# M#

TC/A.U.: 2876

Serial No. 09/773,384

Examiner: Le, Uyen Chau, N.

Filed: February 1, 2001

Date: February 16, 2005

OIPE JCS1 FEB 16 2005 PATENT & TRADEMARK OFFICE

Title: OPTICAL DEVICE FOR EMITTING A LASER LIGHT BEAM, OPTICAL READER COMPRISING SAID DEVICE AND PROTECTIVE/INSULATING PACKAGE FOR A LIGHT BEAM EMISSION SOURCE

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

☐ **Correspondence Address Indication Form Attached.**

☐ **NOTICE OF APPEAL**
Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the Examiner twice/finally rejecting applicant's claim(s). $500.00 (1401)/$250.00 (2401) $

☒ An appeal **BRIEF** is attached (in triplicate) in the pending appeal of the above-identified application $500.00 (1402)/$250.00 (2402) $ 500.

☐ Credit for fees paid in prior appeal without decision on merits -$ ( )

☐ A reply brief is attached in triplicate under Rule 41.41 **(no fee)**

☐ Petition is hereby made to extend the current due date so as to cover the filing date of this paper and attachment(s)
One Month Extension $120.00 (1251)/$60.00 (2251)
Two Month Extensions $450.00 (1252)/$225.00 (2252)
Three Month Extensions $1020.00 (1253/$510.00 (2253)
Four Month Extensions $1590.00 (1254/$795.00 (2254) $

☐ "Small entity" statement attached.

Less month extension previously paid on -$( )

TOTAL FEE ENCLOSED $ 500.00

Any future submission requiring an extension of time is hereby stated to include a petition for such time extension. The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our **Account No. 14-1140.** A duplicate copy of this sheet is attached.

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NIXON & VANDERHYE P.C.
By Atty: H. Warren Burnam, Jr., Reg. No. 29,366

Signature: H. Warren Burnam

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of

OLIVA | Atty. Ref.: 3572-27

Serial No. 09/773,384 | Group: 2876

Filed: February 1, 2001 | Examiner: Le, Uyen Chau, N.

For: OPTICAL DEVICE FOR EMITTING A LASER LIGHT BEAM, OPTICAL READER COMPRISING SAID DEVICE AND PROTECTIVE/INSULATING PACKAGE FOR A LIGHT BEAM EMISSION SOURCE

* *

February 16, 2005

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Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Applicant now submits an Appeal Brief, having filed on December 16, 2004 a Notice of Appeal appealing the Final Rejection of claims 1 – 37 (all claims) as set forth in the Final Office Action of June 16, 2004.

REAL PARTY IN INTEREST

The real party in interest is DATALOGIC, S.p.A., a corporation of the country of Italy.

RELATED APPEALS AND INTERFERENCES

The appellant, the undersigned, and the assignee are not aware of any related appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 1-37 are pending and have been rejected. No claims have been substantively allowed.

STATUS OF AMENDMENTS

No amendments have been filed since the date of the Final Rejection.

SUMMARY OF INVENTION

This "Summary" is intended only as an introduction to and explanation of the claimed subject matter, and for compliance with 37 CFR §1.192, but does not supplant the actual wording of the claims as being the definer of claim scope. For sake of readability, unless otherwise noted, reference to paragraphs (¶[00xxx]) of the specification are to the Substitute Specification filed on February 25, 2002. Drawing reference numerals are provided parenthetically in the ensuing summary; for convenience, copies of the original drawings are attached as a second Appendix.

By way of brief background, the claimed structure has example but not exclusive employment in a small-size and low-cost optical reader, such as for example a portable optical code reader. The claimed structure solves technical problems including that of providing a device for emitting a light beam which should, on the one hand, be simply constructed, easy to mount, low-priced, and small-sized, and on the other hand should

have all the advantages of introducing diffraction in the emission laser beam (in particular, an increase of the depth of field of the device and/or reader).

A first claimed aspect is an optical device (1) for emitting a light beam. The optical device comprises a light beam emission source (20) including a package (6) and means for generating the laser light beam (e.g., laser diode 4) housed in the package. The package (6) is the protective and/or insulating package of the light beam emission source (20). The package (6) is provided with a light beam emission window.

The package comprises a diaphragm (12). The diaphragm (12) defines an aperture for selecting a central portion of the generated light beam. The central portion of the generated light beam is propagated out of the package and has a predetermined diffraction pattern. Propagation of the remaining portion of the light beam is obstructed because it is not selected by the aperture. Thus, <u>only</u> the selected central portion of the generated light beam passes through the emission window of the package. *See*, e.g., ¶¶[00081] – [00086]. In one example embodiment (e.g., Fig. 2), the laser light beam emission window is shaped to serve as the diaphragm. *See*, e.g., ¶[00083]. The diaphragm can be associated to the package 6 at the emission window, or housed into it, or the diaphragm can comprise the emission window (see Fig. 4). *See*, e.g., ¶[00091].

In another example embodiment, a focusing lens (13) can be an integral part of the package (6) and can constitute the window for the emission of the light beam (3). Moreover, the shape and size of the focusing lens (13) are such as to also constitute the diaphragm, thus forming a window/diaphragm/lens (*see*, in particular, window/diaphragm/lens 13 shown in Fig. 4). *See*, e.g., ¶¶[00087] – [00091].

The diaphragm (12) is intended to introduce diffraction in the laser light beam generated by the emission source, so as to obtain an increase of its depth of field. Even more advantageously, the diaphragm is structurally associated to the protective and/or

insulating package of the luminous source, and it is part of the package. This allows a significant reduction of the overall dimensions of the emitting device and thus, of the optical reader wherein it is intended to be mounted.

A second claimed aspect concerns a non-retroreflective scan optical reader such as optical reader (100) illustrated in Fig. 6, Fig. 8, and Fig. 8. The optical reader (100) comprises an optical emission/detection device (101) having features such as those summarized above (e.g., with a diaphragm (12) which defines an aperture for selecting a central portion of the generated light beam, and wherein only the selected central portion of the generated light beam passes through the emission window of the package). Further, the package (60) of optical reader (100) has a cavity which is divided into two optically separate portions: a first cavity portion (60a) which houses the light beam generator; and, a second cavity portion (60b) which houses a photo-receiver such as a photodiode (103) for detecting a luminous signal diffused by an optical code (104) illuminated by the light beam. The first cavity portion (60a) and the second cavity portion (60b) are optically separate. The emission window ((11) in Fig. 7) is formed on a first wall (107) of the first cavity portion (60a). A window (105) for collecting the light beam diffused by the illuminated optical code is formed on a second wall (106) of the second cavity portion (60b). The emission window (11) and the collecting window (105) are thus formed on respective walls of the package which lie on different planes. *See*, e.g., ¶¶[00094] – [00096].

In operation, the beam (3) impinges on the optical code (104), and the light diffused thereby (by the optical code (104)) is collected by the photodiode (103). Therefore, the emission and collecting optical paths are totally separate from one another. *See*, e.g., ¶[00097]. A single emission/detection device is thus advantageously implemented, which limits the overall dimensions of the reader in which said device is intended to be mounted. The reception photodiode (103) is thus in a slightly rear position with respect to the gathering window (105), and therefore it is partly screened with

respect to the light coming from different areas than that illuminated by the emission beam (ambient light), thus improving the signal-noise ratio at the output from photodiode 103. *See*, e.g., ¶[00098].

ISSUES

1. Whether claims 1 – 17 and 35 are anticipated by U.S. Patent 5,233,170 to Metlitsky et al. ("Metlitsky").

2. Whether claims 18-34, 36 and 37 are patentable over U.S. Patent 5,233,170 to Metlitsky et al. ("Metlitsky") in view of U.S. Patent 5,969,323 to Gurevich et al. ("Gurevich")

GROUPING OF CLAIMS

Group 1: Claims 1 – 17 and 35

Group 2: Claims 18-34, 36 and 37

ARGUMENT

1. The Claims of Group 1 (1 – 17 and 35) are not anticipated by Metlitsky

In essence, the independent claims of Group 1 (i.e., claims 1, 16, 17 and 35) each recite that:

a) the claimed package is the protective and/or insulating package of the light beam emission source;

b) this package is provided with a light beam emission window;

c) this package comprises a diaphragm which defines an aperture for selecting a central portion of the generated laser light beam so that this central portion of the generated light beam is propagated out of the package and has a predetermined diffraction pattern while propagation of the remaining portion is obstructed;

d) only the selected central portion of the generated laser light beam passes through the emission window of the package.

Applicant's claimed diaphragm is part of (or is located within) the protective and/or insulating package of the light beam emission source. Through the emission window of this package passes only the central portion of the laser light beam which is generated by the emission source housed within the package and which is selected by the diaphragm. In requiring that only the selected central portion of the generated laser light beam passes through the emission window, Applicants preclude passage of the returning light reflected by the optical code from passing through the emission window.

The final rejection erroneously equates the claimed diaphragm to lens 200 or items 38, 36 and 34 of Metlitsky. The allegations with respect to each of these Metlitsky items are defused below:

Metlitsky Lens 200

Metlitsky's lens 200 is a Fresnel lens which acts only on the returning reflected light and is used to increase the efficiency of light collection. *See,* e.g., column 8. lines 49-50 of Metlitsky, as well as column 8, lines 55-57, wherein it is specified that the Fresnel lens 200 "focuses the returning reflected light onto the monitor photodiode 28".

Metlitsky makes no disclosure that his Fresnel lens 200 is used as the claimed diaphragm. Metlitsky's lens 200 does not serve for selecting a central portion of the light beam 24 emitted by the laser chip 22 and for obstructing propagation of the remaining portion of this light beam. Thus, contrary to the final rejection, Metlitsky certainly does not disclose that the Fresnel lens 200 serves as a diaphragm.

Furthermore, Metlitsky certainly cannot suggest that the Fresnel lens 200 could serve as the claimed diaphragm. In fact, from Figs. 6, 9,10 of Metlitsky it is clear that the Fresnel lens 200 has a central opening intended to allow propagation of the whole light beam 24 emitted by the laser chip 22. Thus, differently from the Applicant's claims, the lens 200 neither selects a central portion of the light beam 24 emitted by the laser chip 22. nor obstructs propagation of the remaining portion of this light beam. Note that in Figs. 6, 9 and 10 of Metlitsky the external rays of the light beam 24 which are emitted by the laser chip 22 pass through the central opening of the Fresnel lens 200, and thus no portion of the outgoing light beam 24 is stopped by the lens. This is very significant: if Metlitsky's lens 200 were to stop any portion of the outgoing light beam 24, this stopped portion of light beam would be reflected by the internal walls of the package over the monitor photodetector 28, which consequently would be blinded. This inevitably would disturb and prejudice the collection and focusing onto the monitor photodetector 28 of the returning light reflected from the bar code, and would surely be contrary to Metlitsky's object and teaching(to increase the efficiency of light collection). Thus, contrary to the

Examiner's opinion, Metlitsky fails to suggest that the Fresnel lens 200 can serve as the claimed diaphragm.

Metlitsky aperture stop 36

Metlitsky's item 36 is an aperture stop which does serve as a diaphragm. Item 36 serves as an element for selecting a portion of the light beam 24 emitted by the laser chip 22 and for obstructing propagation of the remaining portion of this light beam. However, differently from the Applicant's independent claims 1, 16, 17 and 35, the Metlitsky aperture stop <u>is not part of</u> (or <u>is not located within</u>) the package 10. In fact, item 36 is located <u>downstream of and outside</u> Metlitsky's package 10. Therefore, Metlitsky's item 36 cannot be equated to the claimed diaphragm.

Metlitsky focusing lens 34

Metlitsky's item 34 is a focusing lens which, together with the aperture stop 36, acts on the optical path of the outgoing laser beam 24 generated by the laser diode to focus this laser beam to a beam spot onto the reference plane containing the symbol to be read (see Metlitskycolumn 5, lines 15-19). Therefore, it is clear that item 34 is not a diaphragm because it neither selects any portion of the outgoing light beam 24 nor prevents propagation of any remaining portion thereof. In addition, should the Examiner read the claimed diaphragm as being the lens 34, it is pointed out that lens 34 <u>is not part of</u> (or <u>is not located within</u>) the package 10. In fact, lens 34 is located <u>downstream of and outside</u> the package 10. Therefore, Metlitsky's item 34 cannot be equated to the claimed diaphragm.

Metlitsky collecting lens 38

Metlitsky's item 38 is a collecting lens which acts on the optical path of the returning reflected light 42, as the Fresnel lens 200, and serve to focus the reflected light 42 onto the monitor photodiode 28. Lens 38 has an aperture 40 which permits the outgoing laser beam 24 to pass unobstructedly through and past lens 38. This is clearly recited on column 5, line 49-55 of Metlitsky . Therefore, it is clear that Metlitsky's lens 38 cannot be equated to the claimed diaphragm because it neither selects any portion of the outgoing light beam 24 nor prevents propagation of any remaining portion thereof.

Applicant submits that it would be improper and unavailing if the final rejection were construed as asserting that items 38, 36 and 34 collectively be considered as a single element which serves as a diaphragm. In this regard, the focusing lens 34 and the aperture stop 36 of Metlitsky act on the optical path of the outgoing laser beam 24 generated by the laser diode and serve to focus this laser beam to a beam spot onto the reference plane containing the symbol to be read (*see,* e.g., column 5, lines 15-19 of Metlitsky), whereas the collecting lens 38, as well as the Fresnel lens 200, act on the optical path of the returning reflected light 42 and serve to focus the reflected light 42 onto the monitor photodiode 28. Thus, it is clear to the skilled person that items 38, 36 and 34 act on different optical paths and serve different specific purposes. Therefore, it is technically incorrect and impermissible to consider items 38, 36 and 34 as a single element which serves as a diaphragm.

As a further matter, the final rejection has not properly addressed Applicant's claim limitation that only the selected central portion of the generated laser light beam passes through the emission window of the package (and not also the returning light reflected by the optical code). Clearly, in Metlitsky the outgoing laser beam 24 ***and*** the returning reflected light 42 pass through the emission window 14 of the package 10.

Therefore, it is clear that the limitation that ***only*** the selected central portion pass through the emission window is neither disclosed nor suggested by Metlitsky.

2. The Claims of Group 2 (18-34, 36 and 37) are patentable over the combination of Metlitsky and Gurevich

The Group 2 claims basically relate to an optical device for emitting/detecting a luminous signal. The optical device comprises a light beam emission source including a package, with the package comprising a first portion which houses the light beam generator and a second portion which houses a photo-receiver. The first and second portions are optically separate from each other. Moreover, the emission and collecting windows are formed on respective walls of the package which lie on different planes.

The final rejection correctly acknowledged that Metlitsky fails to teach or fairly suggest that light emitting source and light receiving device are optically separated. However the rejection stated that Gurevich teaches an outgoing beam and a reflected beam which do not overlap, and that separating outgoing beam and incoming beam is a well-known method and widely used in optical reader. Essentially upon this rationale the subject matter of independent claims *18,* 36 and 37 is alleged to be obvious.

In considering Gurevich, Applicant stresses that the claimed package is the protective and/or insulating package (or capsule) of the light source. Indeed, Applicant claims a light beam emission source which includes a package. Thus, the claimed package is part of the light beam emission source and, specifically, it is the protective and/or insulating capsule disclosed in ¶[00011] of Applicant's specification[1]. Therefore Gurevich is absolutely irrelevant to Applicant's claims.

[1] *See* page 2, lines 17 – 32 of Applicant's specification as *originally* filed.

It may be alleged that Gurevich shows an outgoing beam and a reflected beam which do not overlap within the external case. But Applicant *avoids* overlapping of outgoing beam and reflected beam within the package of the light source. Since Gurevich does not show the returning light going into the light source 3, Gurevich is irrelevant to Applicant's claims.

In any case, Gurevich neither discloses nor suggests providing emission and collecting windows which are formed on respective wails of the package which lie on different planes.

The claimed limitation that the emission and collecting windows are formed on respective walls of the package which lie on different planes is not even disclosed or suggested by Metlitsky. In fact, Metlitsky teaches to provide a single window on a single plane for both the emitting light beam and the returning light beam.

None of the applied prior art teaches or suggests providing the package of the light source with emission and collecting windows formed on different planes. Applicant's independent claims 18, 36 and 37 are therefore clearly patentable over the cited prior art.

While not germane to the rejections of record, Applicant also submits that US Patent 4,309,605 to Okabe (which is of record) does not provide a basis for denying patentability of Applicant's claims. Okabe discloses a photo-reflective sensor which comprises, within the protective and/or insulating package thereof, a light-emitting element and a light-detecting element. The light-emitting element and the light-detecting element are housed into respective portions of the package and are optically separated by a light blocking wall. Each portion has a respective window. The Okabe windows are provided on the same plane. Therefore, at best Okabe would suggest to form the emission and collecting windows on the same plane, in contrast to Applicant's claims 18,

36 and 37 which all require emission and collecting windows which are formed on different planes.

CONCLUSION

Reversal of the Final Rejection and passage of the subject application to issue are earnestly solicited.

Respectfully submitted,

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APPENDIX 1:
CLAIMS ON APPEAL

1. (Previously Presented) An optical device for emitting a laser light beam, comprising:

a light beam emission source including a protective and/or insulating package and means for generating the laser light beam housed within the package, the package being provided with a laser light beam emission window;

wherein the package comprises a diaphragm which defines an aperture for selecting a central portion of the generated laser light beam so that the selected central portion of the generated laser light beam is propagated out of the package and has a predetermined diffraction pattern, while propagation of the remaining portion of the generated laser light beam is obstructed; wherein only the selected central portion of the generated laser light beam passes through said emission window.

2. (Previously Presented) The device according to claim 1, wherein the source comprises a semiconductor laser diode.

3. (Previously Presented) The device according to claim 1, wherein said diaphragm is directly associated to said package at said laser light beam emission window.

4. (Previously Presented) The device according to claim 3, wherein said diaphragm is directly housed in the laser light beam emission window.

5. (Previously Presented) The device according to claim 1, wherein said laser light beam emission window is shaped to serve as the diaphragm.

6. (Previously Presented) The device according to claim 1, wherein a size of the laser light beam emission window is smaller than a size of the laser light beam in a transversal cross section taken at said laser light beam emission window.

7. (Previously Presented) The device according to claim 1, wherein said aperture has a Fresnel number smaller than 2 along a predetermined reading direction.

8. (Previously Presented) The device according to claim 7, wherein said aperture has a Fresnel number smaller than 1.2 along said reading direction.

9. (Previously Presented) The device according to claim 1, wherein said aperture has a Fresnel number smaller than 2 along an orthogonal direction with respect to a predetermined reading direction.

10. (Previously Presented) The device according to claim 1, further comprising a focusing lens.

11. (Previously Presented) The device according to claim 10, wherein the focusing lens is directly associated to said package at said laser light beam emission window.

12. (Previously Presented) The device according to claim 11, further comprising an adhesive interposed between the focusing lens and the laser light beam emission window.

13. (Previously Presented) The device according to claim 11, wherein the focusing lens is housed in the laser light beam emission window and serves as the diaphragm.

14. (Previously Presented) The device according to claim 13, wherein the focusing lens is one of a Fresnel and a diffractive lens.

15. (Previously Presented) The device according to claim 1, wherein said package exhibits a longitudinal axis Z and wherein the source is arranged in said package so that the emitted light beam propagates along a substantially perpendicular direction with respect to said longitudinal axis Z.

16. (Previously Presented) An optical reader, comprising:

a laser light beam emission device for illuminating an optical code,

means for generating at least one scan of said optical code,

photo-detecting means which collects a luminous signal diffused by the illuminated optical code and generates an electrical signal proportional thereto, and

processing means for processing the electrical signal,

wherein the laser light beam emission device comprises:

a laser light beam emission source including a protective and/or insulating package and means for generating a laser light beam housed within the package, the package being provided with a laser light beam emission window;

wherein the package comprises a diaphragm which defines an aperture for selecting a central portion of the generated laser light beam so that the selected central portion of the generated laser light beam is propagated out of the package and has a predetermined diffraction pattern, while propagation of the remaining portion of the generated laser light beam is obstructed;

wherein only the selected central portion of the generated laser light beam passes through said emission window.

17. (Previously Presented) A protective and/or insulating package for a light beam emission source, the package comprising:

means for generating a light beam housed in a cavity of the package,

a wall provided with a window which allows emission of the light beam, and

a diaphragm which defines an aperture intended to select a central portion of the generated light beam so that the selected central portion of the generated laser light beam

is propagated out of the package and has a predetermined diffraction pattern, while propagation of the remaining portion of the generated laser light beam is obstructed, wherein only the selected central portion of the generated laser light beam passes through said emission window.

18. (Previously Presented) An optical device for emitting/detecting a luminous signal, comprising:

a light beam emission source including a protective and/or insulating package and means for generating the light beam housed in a first portion of the package, a light beam emission window being formed in the first portion of the package;

photo-receiving means for detecting a luminous signal diffused by an optical code illuminated by the emission source, the photo-receiving means being housed in a second portion of the package, the second portion of the package being optically separate with respect to the first portion, the second portion of the package being provided with a window for collecting the luminous signal diffused by the illuminated optical code, said emission and collecting windows being formed on respective first and second walls of the package which lie on different planes.

19. (Previously Presented) The device according to claim 18, wherein the emission source comprises a semiconductor laser diode.

20. (Previously Presented) The device according to claim 18, wherein said first and second walls are orthogonally oriented with respect to one another.

21. (Previously Presented) The device according to claim 18, wherein said protective and/or insulating package comprises at least one diaphragm intended to select a central portion of the generated light beam.

22. (Previously Presented) The device according to claim 21, wherein said diaphragm is directly associated to said package at said light beam emission window.

23. (Previously Presented) The device according to claim 22, wherein said diaphragm is directly housed in the light beam emission window.

24. (Previously Presented) The device according to claim 22, wherein said light beam emission window is shaped to serve as said diaphragm.

25. (Previously Presented) The device according to claim 18, wherein a size of the light beam emission window is smaller than a size of the light beam in a transversal cross section taken at said light beam emission window.

26. (Previously Presented) The device according to claim 21, wherein said diaphragm defines an aperture having a Fresnel number smaller than 2 along a predetermined reading direction.

27. (Previously Presented) The device according to claim 26, wherein said aperture has a Fresnel number smaller than 1.2 along said reading direction.

28. (Previously Presented) The device according to claim 21, wherein said diaphragm defines an aperture having a Fresnel number smaller than 2 along an orthogonal direction with respect to a predetermined reading direction.

29. (Previously Presented) The device according to claim 18, also comprising a focusing lens.

30. (Previously Presented) The device according to claim 29, wherein the focusing lens is directly associated to said package at said light beam emission window.

31. (Previously Presented) The device according to claim 30, further comprising an adhesive interposed between the focusing lens and the light beam emission window.

32. (Previously Presented) The device according to claim 30, wherein the focusing lens is housed in the light beam emission window and serves as the said diaphragm.

33. (Previously Presented) The device according to claim 32, wherein the focusing lens is one of a Fresnel and a diffractive lens.

34. (Previously Presented) The device according to claim 18, further comprising a wall made of an optically opaque material interposed between said first portion of the package and the second portion of the package.

35. (Previously Presented) An optical reader comprising:

a light beam emission device which generates a light beam for illuminating an optical code,

means for generating a scan of the optical code,

a device for detecting the luminous signal diffused by the illuminated optical code and for generating an electrical signal proportional thereto,

means for processing the electrical signal,

wherein the emission device and the detection device are integrated in a single device, the single device comprising a source of light beam including a protective and/or insulating package and means for generating the laser light beam housed within the package, the package being provided with a laser light beam emission window;

wherein the package comprises a diaphragm which defines an aperture for selecting a central portion of a generated laser light beam so that the selected central portion of the generated laser light beam is propagated out of the package and has a predetermined diffraction pattern, while propagation of the remaining portion of the generated laser light beam is obstructed;

wherein only the selected central portion of the generated laser light beam passes through said emission window.

36. (Previously Presented) A protective and/or insulating package for a light beam emission source, comprising:

a first portion which houses means for generating a light beam, the first portion being provided with a first wall wherein there is formed a window which allows emission of the light beam,

a second portion which houses photo-receiving means for detecting a luminous signal diffused by an optical code illuminated by the light beam generating means, the second portion being provided with a second wall, a window for collecting the luminous signal diffused by the illuminated optical code being formed in the second wall, the second portion being optically separate from the first portion, said first and second walls lying on respective different planes.

37. (Previously Presented) An optical reader comprising:

a light beam emission device which generates a light beam for illuminating an optical code,

means for generating a scan of the optical code,

a device for detecting the luminous signal diffused by the illuminated optical code and for generating an electrical signal proportional thereto,

means for processing the electrical signal,

wherein the emission device and the detection device are integrated in a single device, the single device comprising a source of the light beam including a protective and/or insulating package, means for generating the light beam housed in a first portion of the package, a light beam emission window being formed in the first portion of the package, and photo-receiving means which detects a luminous signal diffused by an optical code illuminated by the source, the photo-receiving means being housed in a second portion of the package, the second portion of the package being optically separate

with respect to the first portion, the second portion of the package being provided with a window for collecting the luminous signal diffused by the illuminated optical code, said emission and collecting windows being formed on respective first and second walls of the package which lie on different planes.

APPENDIX 2:
APPLICATION DRAWINGS

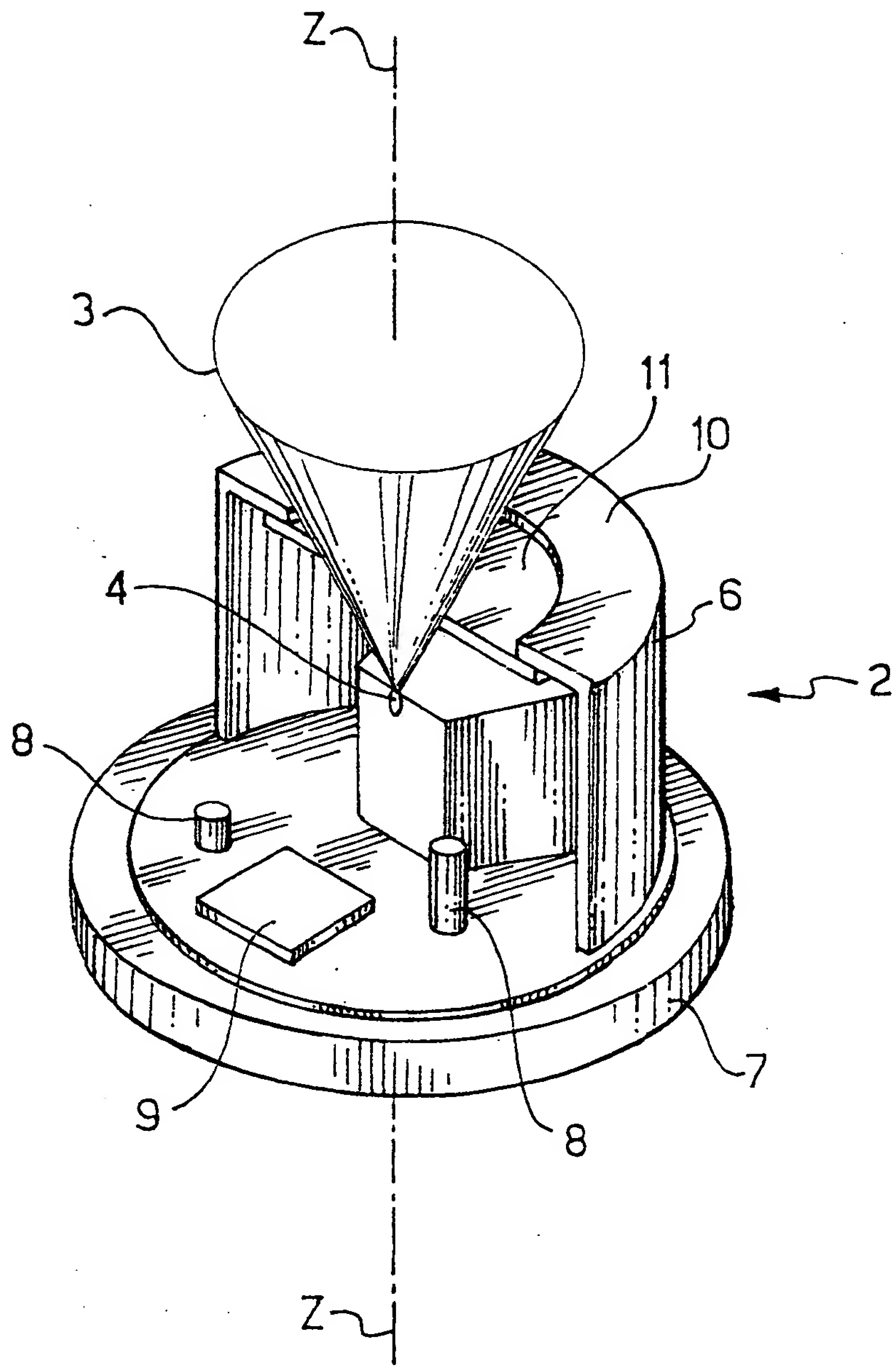

FIG.1
(PRIOR ART)

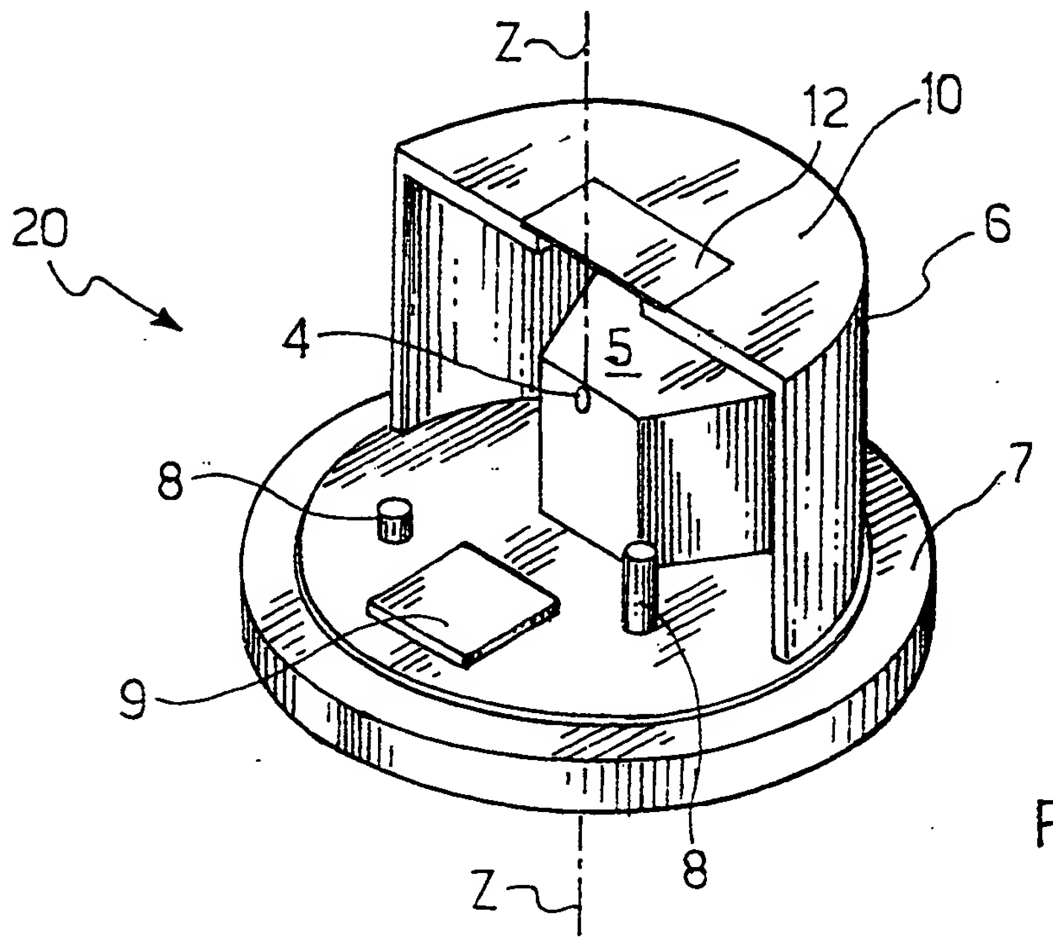

FIG.2

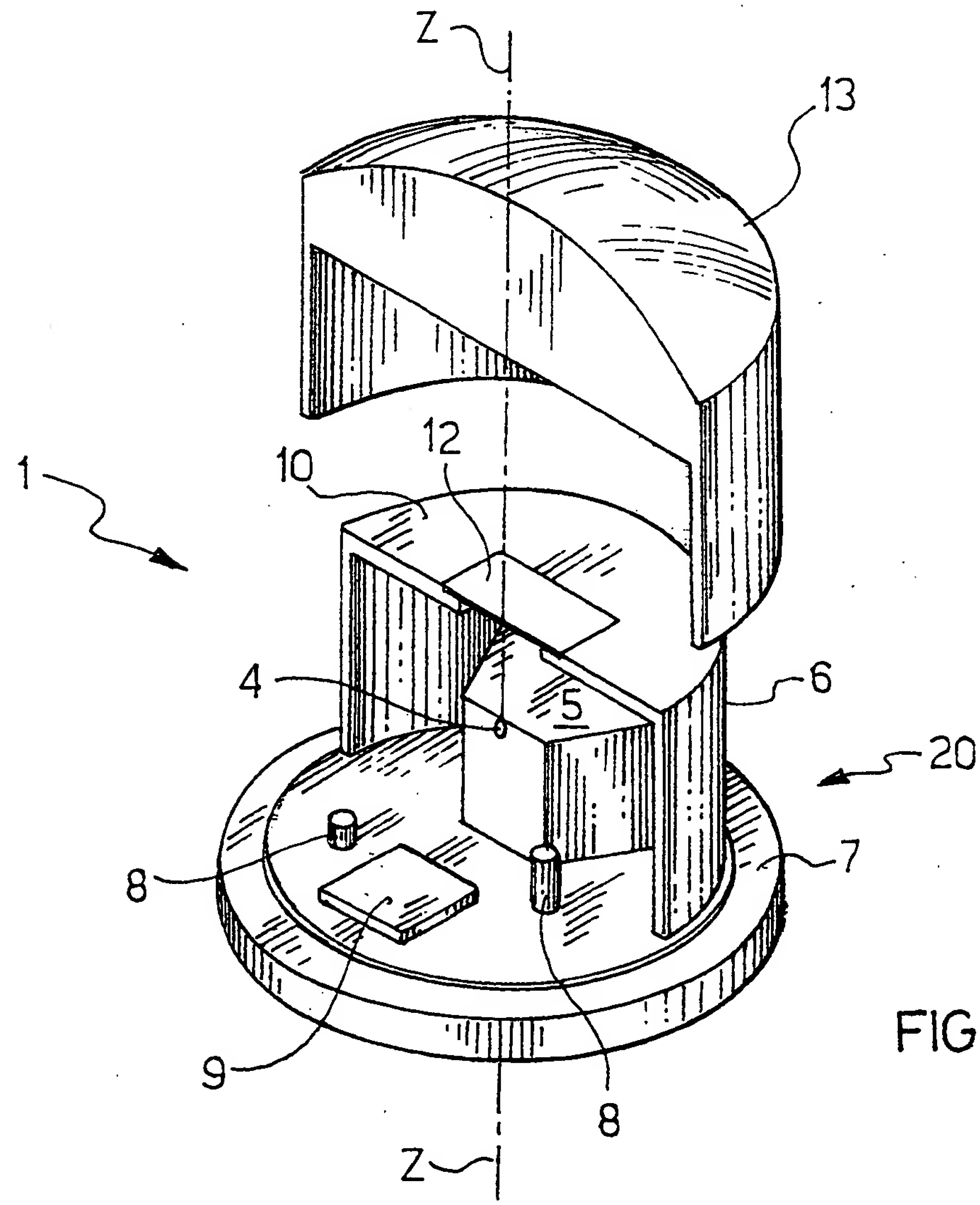

FIG.3

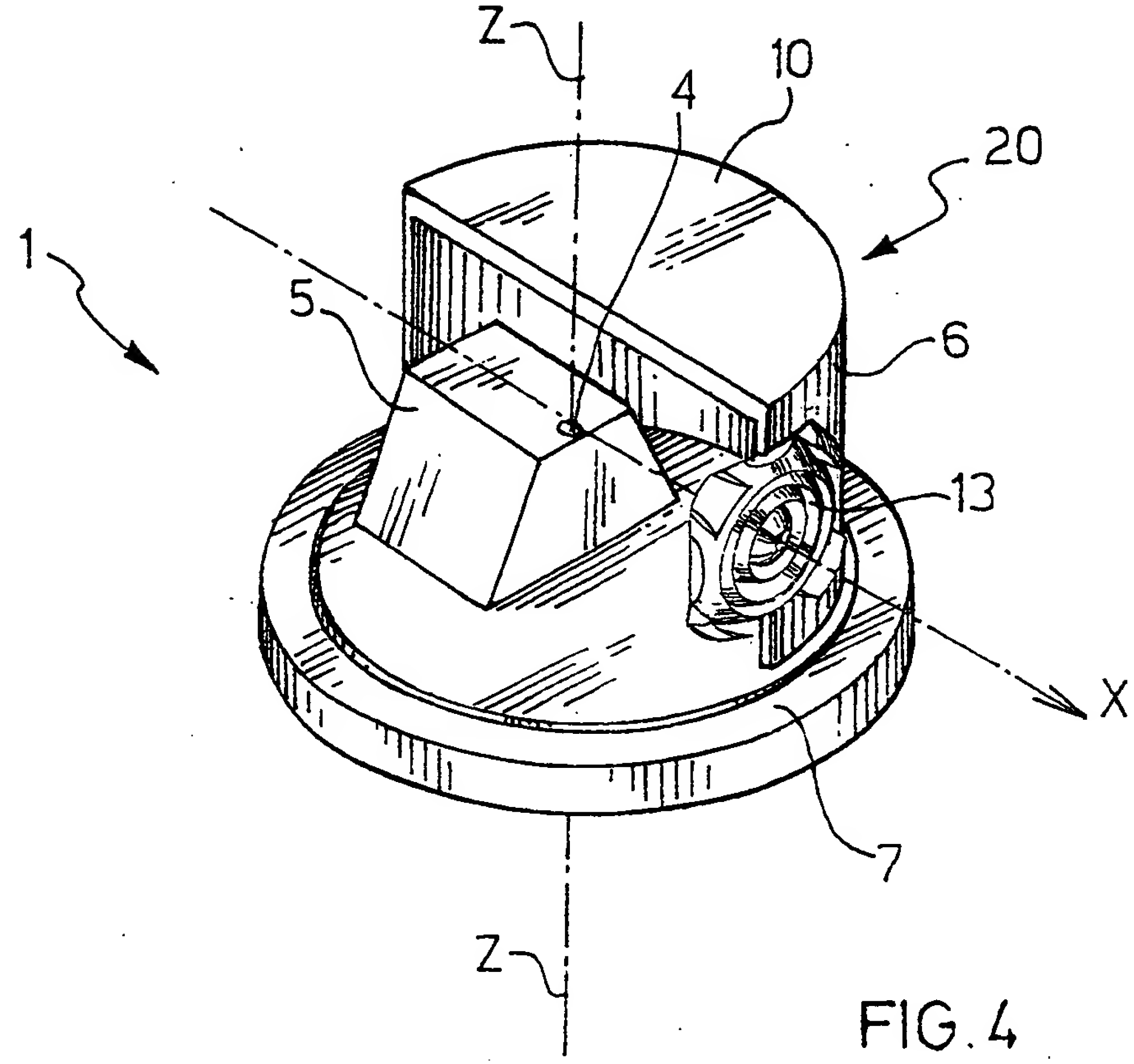

FIG. 4

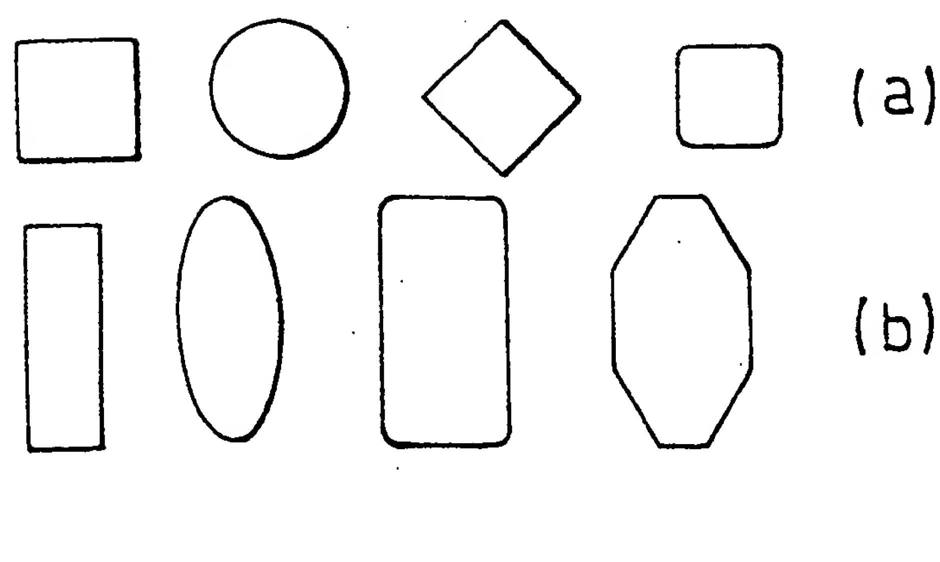

FIG. 5

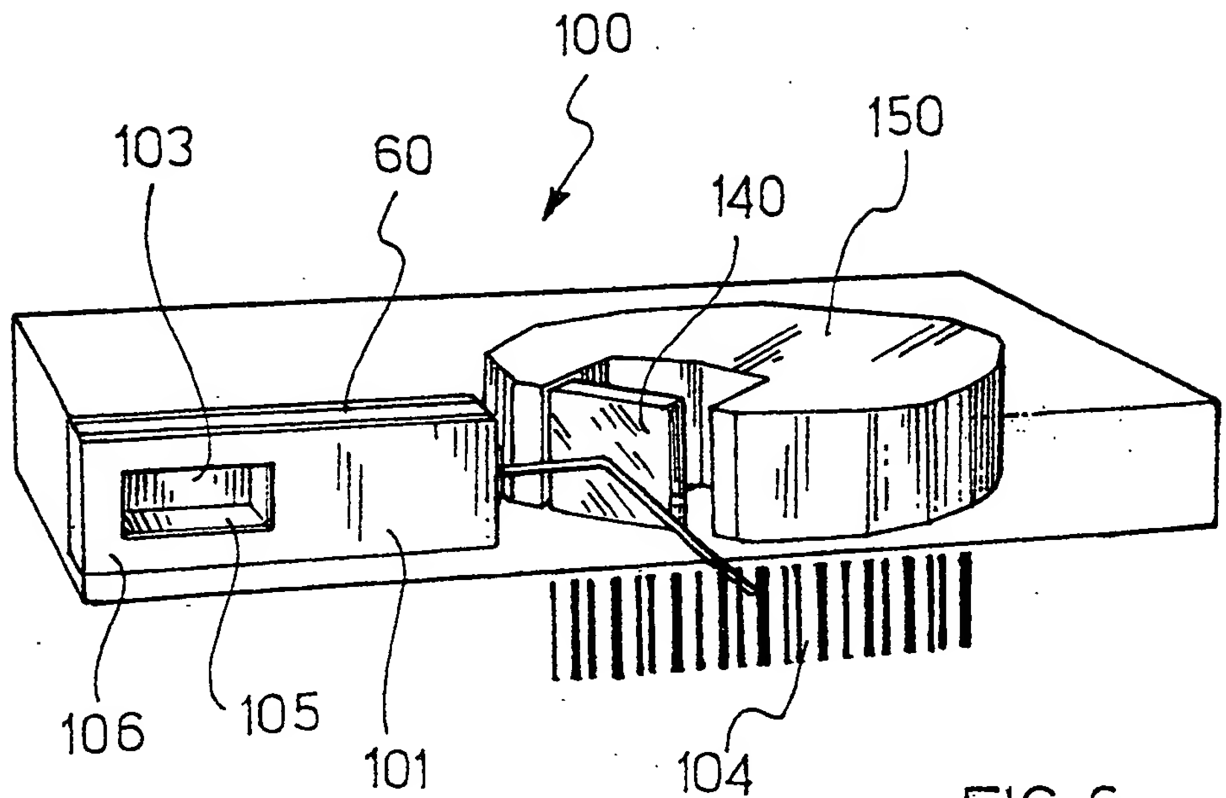
100
103
60
140
150
106
105
101
104

FIG.6

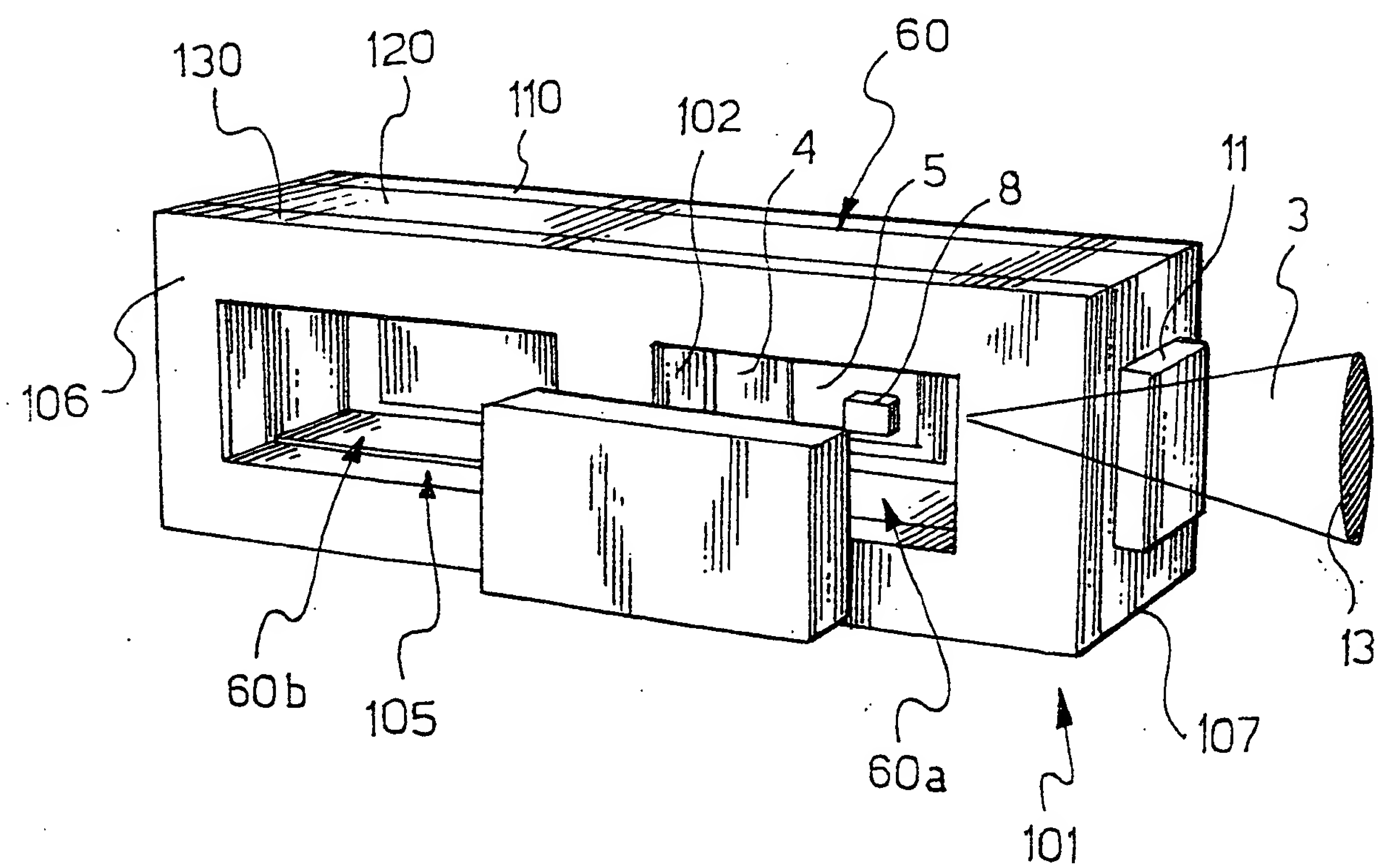
130
120
110
102
4
60
5
8
11
3
106
60b
105
60a
101
107
13

FIG.7

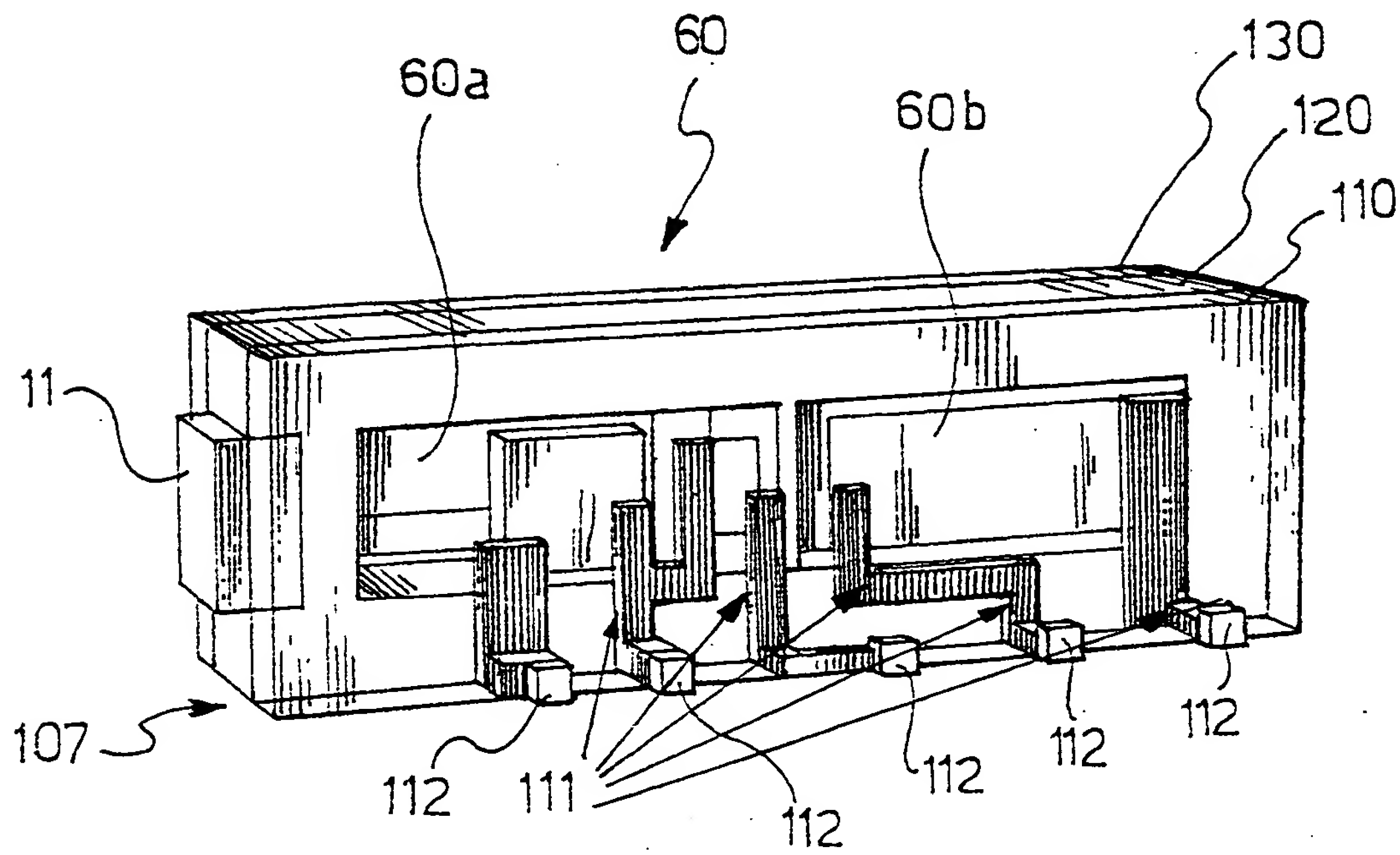

FIG.8